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ABSTRACT

In order to determine whether students transcribe the same number of words regardless of the speed of the dictation, dictation tests were administered to students enrolled in beginning Gregg shorthand at the secondary level. Test batteries were administered at three different times throughout the first semester of shorthand instruction. The shorthand ditation tests were all three-minute, vocabulary-controlled tests. The first test battery consisted of two three-minute dictation tests, one each at fifty, sixty, and seventy words a minute. The final test battery consisted of three three-minute dictation tests, one each at sixty, seventy, and eighty words a minute. The findings of the study indicate that students transcribe a similar number of actual words of three-minute dictation tests regardless of the speed of the dictation. (LRA)

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A Method of Evaluating Shorthand Dictation Tests

by

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INTRODUCTION

The purpose of this research project was to empirically analyze and evaluate a different approach to grading shorthand dictation tests. The traditional method of grading shorthand dictation tests is to administer tests at varying speeds (usually from 50 to 80 words a minute in the first semester). Each test is evaluated using a minimum error tolerance (acceptable or not acceptable) for a dictation speed. Students are classified as achieving a particular speed level when they consistently transcribe dictation material within the specified tolerances (usually 95 or 97 percent accuracy). Each dictation passage is usually three minutes in length, and several different tests (speeds) are administered during a testing period.

Prior research by Boss (1967), Gallion (1968), and Anderson (1969), indicated consistency in students' scores on dictation tests at various speeds when tests were scored by the total number of actual words the students were able to transcribe after writing the passage of dictation in shorthand. If this characteristic is true, then possibly a new approach to the grading of shorthand dictation tests could be used for classroom evaluation purposes. This new approach would involve administering only one dictation test rather than several. This research attempted to determine whether students do in fact transcribe the same number of words regardless of the speed of the dictation.

PROCEDURES

In order to determine whether students transcribe the same number of words regardless of the speed of the dictation, dictation tests were administered to students enrolled in beginning Gregg shorthand at the secondary level.

Selection of Participants

The subjects in this study were students enrolled in secondary beginning Gregg shorthand classes in two different Indiana schools. Those schools selected were those in which the shorthand teacher was willing to participate in the study. Both schools used the textbook, Gregg Shorthand, Diamond Jubilee Series (1971). All students enrolled

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in beginning shorthand in the two schools willing to participate were used in the study. Because of an excessive number of snow days, one school was not able to adminster all of the test batteries.

Test Batteries

Test batteries were administered at three different times throughout the first semester of shorthand instruction. Written instructions for administering each of the tests were provided, and all of the dictation was dictated by the researcher on cassette tape and sent to the schools involved in the study. Teachers were asked to allow 25 minutes for administering each of the tests, with only one test administered during a given class period. Students were allowed to transcribe either in typewrtten or handwritten form following the procedure normally used in their classroom. Teachers were asked to encourage their students to take and transcribe as much of the dictation as possible, even though they were not able to get all of the dictation.

The shorthand dictation tests were all three-minute, vocabulary-controlled tests. These tests were coordinated with the theory lessons in beginning Gregg Diamond Jubilee shorthand and were restricted to the 1500 most frequently used words in written business communications as established by Mellinger. All tests were selected from the book, Computer Analyzed Vocabulary-Controlled Dictation Tests for Beginning Gregg and Century 21 Shorthand (Minnick etal., 1977). The tests selected were those that were similar in several characteristics which might contribute to the difficulty of the tests. Table 1 shows selected characteristics of the tests used in this study.

TABLE 1

CHARACTERISTICS OF THE DICTATION TESTS

Test Battery	Speed of Dictation	S.I.	Percent			
			Brief Forms	B.F. Derivatives	Different Words	First 500
I	50	1.39	43.7	5.3	59.6	88.1
	60	1.40	43.6	5.0	57.5	89.9
II	50	1.39	43.3	2.7	62.4	88.6
	60	1.41	46.4	2.2	54.2	84.9
	70	1.39	50.0	3.3	59.0	79.7
III	60	1.41	49.7	2.2	52.5	78.7
	70	1.40	45.5	7.6	54.3	82.8
	80	1.36	45.5	2.8	50.0	82.1

Administration of Test Batteries

The first test battery was administered on two consecutive days the middle of November and consisted of 2 three-minute dictation tests--one at 50 words a minute and one at 60 words a minute. A total of 104 students completed the test at 50 words a minute given on the first day, while 111 students completed the test at 60 words a minute administered on the second day.

Test Battery II consisted of 3 three-minute dictation tests--one each at 50, 60, and 70 words a minute. These tests were administered on three consecutive days the second week in December. A total of 88 students completed the tests at 50 and 60 words a minute, while 80 students completed the test at 70 words a minute.

The final test battery consisted of 3 three-minute dictation tests--one each at 60, 70, and 80 words a minute. These tests were administered in January near the end of the first semester. Because of an exceedingly large number of snow days, one school was unable to administer this final test battery. Thus, the tests at 60 and 70 words a minute were administered to 49 students, while the test at 80 words a minute was administered to 50 students.

All achievement tests were sent to the researcher for scoring. The tests were scored according to the number of words the students were able to transcribe correctly. No errors were charged for transcription errors such as spelling, capitalization, punctuation, and English usage. Additional words inserted in the transcript by the transcriber were also not counted as errors.

FINDINGS

To determine whether a significant difference existed among the mean scores for each test battery, a simple one-way analysis of variance was calculated for each test battery using the IBM 360/50 computer at Indiana State University and the one-way analysis of variance program in Interactive Statistical Analysis (Kavan, etal., 1975). This program performs a one-way analysis of variance for testing the significance of difference between the means as well as a least significance difference (LSD) test for locating the source of significance among the means.

The results of the analysis of variance for Test Battery I are presented in Table 2.

The calculated F ratio = 3.495 with 1 and 213 degrees of freedom. The tabled value of F at the .05 level for 1 and 213 degrees of freedom is 3.89. Thus, the hypothesis that no significant difference existed between the mean scores on the two tests administered in Test Battery I was retained.

Table 2

SUMMARY TABLE SHOWING THE ANALYSIS OF VARIANCE FOR TEST BATTERY I

Source of Variation	SS	df	MS
Between groups	4315.375	1	4315.375
Within groups	263008.625	213	1234.782
Total	267324.000	214	

Table 3 shows the results of the analysis of variance for Test Battery II.

Table 3

SUMMARY TABLE SHOWING THE ANALYSIS OF VARIANCE FOR TEST BATTERY II

Source of Variation	SS	df	MS
Between groups	9957.000	2	4978.50
Within groups	249881.000	253	987.67
Total	259838.000		

The computed F ratio = 5.0406 with 2 and 253 degrees of freedom. The tabled value of F at the .05 level for 2 and 253 degrees of freedom is 3.03. Therefore, significant differences existed among the means in this test battery. To identify the specific test score means between which significant differences existed, the least significance difference (LSD) test was used. The calculated LSD value = 9.563. Thus, any difference greater than 9.563 would be significant. Table 4 shows the LSD data for Test Battery II.

Thus, there was a significant difference between Test 1 in Test Battery II, which was dictated at 50 words a minute, and Test 2, which was dictated at 60 words a minute.

Table 4

LSD DATA FOR TEST BATTERY II
(* indicates significance)

Means	Difference
$\bar{X}_1 - \bar{X}_2$	15.011*
$\bar{X}_1 - \bar{X}_3$	8.387
$\bar{X}_2 - \bar{X}_3$	6.624

The results of the Analysis of Variance for Test Battery III are presented in Table 5.

Table 5

SUMMARY TABLE SHOWING THE ANALYSIS OF VARIANCE FOR TEST BATTERY III

Source of Variation	SS	df	MS
Between groups	691.000	2	345.50
Within groups	114784.000	145	791.61
Total	115475.000	147	

The calculated F value for 2 and 145 degrees of freedom was .436. The tabled value at the .05 level = 3.05. Thus, the hypothesis that no significant difference existed between the mean scores on the three tests administered in Test Battery III was accepted.

Table 6 shows the mean scores for all of the tests administered in the three test batteries.

The three test batteries varied in terms of possible score. Test Battery I had a possible low score of 151 on the test at 50 words a minute to 179 on the 60 word a minute test, for a total difference of 28 actual words. Test Battery II consisted of three tests, one each at 50, 60, and 70 words a minute, for a total possible variation of 62 actual words. Test Battery III contained three tests at 60, 70, and 80 words a minute for a possible variation of 67 actual words. Yet of the 98 students who completed all tests

Table 6

MEAN SCORES FOR THE TESTS

Test Battery	Test Number	Speed of Dictation	Number of Actual Words	Mean
I	1	50	151	61.12
I	2	60	179	71.89
II	3	50	150	79.50
II	4	60	179	94.51
II	5	70	212	87.87
III	6	60	179	95.28
III	7	70	210	98.83
III	8	80	246	100.46

in Test Battery I only 18 had scores that varied 20 points or more. In Test Battery II only 2 students' scores varied 50 or more words, even though the possible difference in actual words was 62; and in Test Battery III no students had scores that varied 50 or more words although the possible variation was 67 actual words.

Table 7 gives the number of students in each of several classifications showing the amount of variation

Table 7

NUMBER OF STUDENTS IN EACH CLASSIFICATION SHOWING THE DIFFERENCE BETWEEN THE HIGHEST AND LOWEST TEST SCORE IN EACH TEST BATTERY

Amount of Variation	Number of Students		
	Test Battery I	Test Battery II	Test Battery III
Less than 10	45	9	10
10 - 19	35	17	17
20 - 29	7	19	10
30 - 39	5	16	3
40 - 49	5	6	2
50 or more	1	2	0

CONCLUSIONS

The findings of this study indicate that students transcribe a similar number of actual words on three-minute dictation tests regardless of the speed of the dictation. Of the seven possible combinations of tests in the three test batteries, only one combination was significant (Test Battery II, Tests 4 and 5 at 50 and 60 words a minute respectively). Although this one combination was significant, it was the result of an unusually high mean score on Test 5 at only one of the two schools used in the study.

Since the findings of this study supported those results shown in the previous studies by Boss (1967), Gallion (1968), and Anderson (1969), the conclusion can be made that students do in fact transcribe approximately the same number of words regardless of the speed of the dictation.

Further research should be conducted to determine the feasibility of giving only one dictation test each testing session, with the test graded by the actual number of the words the students transcribe. Appropriate guidelines for grading and standards would also need to be determined before this type of approach to dictation tests would be workable.

An investigation into the causes of this similarity of scores should also be completed.

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